

Heart disease and cancer risk may be linked

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Human heart. Credit: copyright American Heart Association

Heart attack survivors may have an increased risk of developing cancer compared to people without cardiovascular disease, according to research to be presented at the American Heart Association's Scientific Sessions 2019—November 16-18 in Philadelphia.

People with more [risk factors](#) for cardiovascular diseases were also at higher risk for developing [cancer](#) compared to people with lower cardiovascular disease risk.

"It's a double whammy. Heart disease and cancer are the two leading causes of death in the United States. We now recognize that they are intimately linked. This tells us that we, as physicians, should be aggressive in trying to reduce cardiovascular risk factors not only to prevent [heart disease](#), but also to consider [cancer risk](#) at the same time," said study lead author Emily Lau, M.D., a cardiology

fellow at Massachusetts General Hospital in Boston.

Using data from the Framingham Heart Study, researchers evaluated data from 12,712 participants (average age 51) without cardiovascular disease or cancer at the start of the study. The American Heart Association/American College of Cardiology's Atherosclerotic Cardiovascular Disease (ASCVD) Risk Estimator and biomarkers (substances released into the bloodstream when the heart is damaged) were used to measure cardiovascular risk. The ASCVD risk estimator is a tool to help predict a person's risk of developing heart disease within ten years.

During the study period of nearly 15 years, 1,670 cancer cases occurred (19% gastrointestinal; 18% breast; 16% prostate; 11% lung). The researchers found:

- Cardiovascular risk factors, including age, sex, [high blood pressure](#) and smoking status, were independently associated with cancer.
- Those with a 10-year ASCVD risk of 20% or higher were more than three times as likely as those with 10-year ASCVD risk of 5% or lower to develop any type of cancer.
- People who developed cardiovascular disease (a heart attack, heart failure or atrial fibrillation) during the study period had more than a sevenfold [increased risk](#) for subsequent cancer compared to those who did not experience any cardiac event.
- Similarly, those with high levels of BNP, a biomarker frequently elevated in heart failure, were more likely to get cancer during the 15-year follow-up period than participants with low levels of BNP.

"I think it's interesting that BNP, a cardiac marker linked to heart failure risk, was associated with the risk of cancer in the future. Currently we use BNP to determine if a person has developed [heart failure](#) from chemotherapy drugs used to treat cancer," said Tochi M. Okwuosa, D.O., Vice Chair,

American Heart Association Council on Clinical Cardiology and Genomics and Precision Medicine Cardio-Oncology Subcommittee and associate professor at Rush University, Chicago. "This is the first study that has shown that BNP that's elevated at baseline is associated with the future risk of cancer."

"Cancer and cardiovascular disease share many of the same risk factors, such as tobacco use, poor nutrition and lack of physical activity. The next step is to identify the biological mechanisms driving the link between [cardiovascular disease](#) and cancer," said Lau.

Many of the same lifestyle habits that reduce the risk of heart disease also reduce the risk of some kinds of cancer; so following the American Heart Association Life's Simple 7 may help prevent both diseases. Life's Simple Seven includes recommendations to eat a [healthy diet](#) (more fruits and vegetables, whole grains and lean protein), be physically active; avoid all tobacco/nicotine products and attain and maintain a healthy body weight, cholesterol, glucose and blood pressure," said Eduardo Sanchez, M.D., M.P.H., chief medical officer for prevention for the American Heart Association.

Lau said this was an observational study, so it doesn't prove cause and effect, but it does shed light on the connection between [heart](#) disease and cancer.

Provided by American Heart Association

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